Mumbai University

Syllabus + Books

B.Sc.IT: Semester – V (Syllabus)

[2018 – 2019]

PAPER - III

Artificial Intelligence

MUMBAI UNIVERSITY
SYLLABUS (2018 – 2019)

ARTIFICIAL INTELLIGENCE
(SYLLABUS)

B.Sc.IT
SEMESTER – V

– : SYLLABUS : –

UNIT I

INTRODUCTION | INTELLIGENT AGENTS

⇒ **Introduction:**
- *What is Artificial Intelligence?*
- *Foundations of AI*
- *History*
- *The State Of Art AI Today*

⇒ **Intelligent Agents:**
- *Agents And Environment*
- *Good Behavior*
- *Nature Of Environment*
- *The Structure Of Agents*

UNIT II

SOLVING PROBLEMS BY SEARCHING | BEYOND CLASSICAL SEARCH

⇒ **Solving Problems By Searching:**
- *Problem Solving Agents*
- *Examples Problems*
- *Searching For Solutions*
- *Uninformed Search*
- *Informed Search Strategies*
- *Heuristic Functions*

⇒ **Beyond Classical Search:**
- *Local Search Algorithms*
- *Searching With Non-Deterministic Action*
- *Searching With Partial Observations*
- *Online Search Agents And Unknown Environments*

UNIT III

ADVERSARIAL SEARCH | LOGICAL AGENTS

⇒ **Adversarial Search:**
- *Games*
- *Optimal Decisions In Games*
- *Alpha-Beta Pruning*
- *Stochastic Games*
- *Partially Observable Games*
- *State-Of-The-Are Game Programs*

⇒ **Logical Agents:**
- *Knowledge Base Agents*
- *The Wumpus World*
- *Logic*
- *Propositional Logic*
- *Propositional Theorem Proving*
- *Effective Propositional Model Checking*
- *Agents Based On Propositional Logic*

Turn Over ☛

UNIT IV

FIRST ORDER LOGIC | INFERENCE IN FIRST ORDER LOGIC

⇒ **First Order Logic:**
- *Syntax And Semantics*
- *Using First Order Logic*
- *Knowledge Engineering In First Order Logic*

⇒ **Inference In First Order Logic:**
- *Propositional vs. First Order*
- *Unification And Lifting*
- *Forward And Backward Chaining*
- *Resolution*

UNIT V

PLANNING | KNOWLEDGE REPRESENTATION

⇒ **Planning:**
- *Definition Of Classical Planning*
- *Algorithms For Planning As State Space Search*
- *Planning Graphs*
- *Other Classical Planning Approaches*
- *Analysis Of Planning Approaches*
- *Time*
- *Schedules And Resources*
- *Hierarchical Planning*
- *Planning And Acting In Nondeterministic Domains*
- *Multiagent Planning*

⇒ **Knowledge Representation:**
- *Categories And Objects*
- *Events*
- *Mental Events And Objects*
- *Reasoning Systems For Categories*
- *Reasoning With Default Information*
- *Internet Shopping World*

– : BOOKS : –

1.
BOOK TITLE: ARTIFICIAL INTELLIGENCE & SOFT COMPUTING FOR BEGINNERS
AUTHOR'S: ANANDITA DAS BHATTACHARJEE
PUBLISHER: SHROFF
EDITION: 1ST
YEAR: 2014
PAPERBACK: 720 PAGES
DOWNLOAD/BUY: @BLOGGER | @AMAZON | @FLIPKART

2.
BOOK TITLE: ARTIFICIAL INTELLIGENCE
AUTHOR'S: ELAINE RICH | KEVIN KNIGHT | SHIVASHANKAR NAIR
PUBLISHER: MCGRAW-HILL
EDITION: 3RD
YEAR: 01/JULY/2017
PAPERBACK: 588 PAGES
DOWNLOAD/BUY: @BLOGGER | @PDF | @TORRENT

3.
BOOK TITLE: ARTIFICIAL INTELLIGENCE: A RATIONAL APPROACH
AUTHOR'S: RAHUL DEVA
PUBLISHER: SHROFF
EDITION: 1ST
YEAR: 2018
DOWNLOAD/BUY: @BLOGGER | @AMAZON | @FLIPKART

4.
BOOK TITLE: A FIRST COURSE IN ARTIFICIAL INTELLIGENCE
AUTHOR'S: DEEPAK KHEMANI
PUBLISHER: MCGRAW-HILL
EDITION: 1ST
YEAR: 01/JULY/2017
PAPERBACK: 944 PAGES
DOWNLOAD/BUY: @BLOGGER | @AMAZON | @PINTEREST

5.
BOOK TITLE: ARTIFICIAL INTELLIGENCE: A MODERN APPROACH
AUTHOR'S: STUART RUSSEL | PETER NORVIG
PUBLISHER: PEARSON
EDITION: 3RD
YEAR: 2015
PAPERBACK: 1164 PAGES
DOWNLOAD/BUY: @BLOGGER | @PDF | @TORRENT